Montana Department of Natural Resources and Conservation

FLOODPLAIN MANAGEMENT PROGRAM

Serving Montana's Communities Since 1974

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Sun River – photo by Mark Boesch

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HIGHGROUND

March 2014

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Surveyor, Engineer or Architect

Who can certify an Elevation Certificate in Montana?
By Larry Schock, DNRC

Larry Schock, Montana DNRC shares surveying information with Joe Smith of Morrison-Maierle at the MARLS Conference in Kalispell. Feb. 21, 2014

One of the most important tools in the FEMA National Flood Insurance Program (NFIP) is the Elevation Certificate (EC). This form is not only used for regulatory purposes, it is also used to determine flood insurance rates. Since the EC is used to make critical decisions that affect public health and safety, and to determine flood insurance rates, it is important that the form be completed using factual data collected by professionals who are properly licensed and have the legal authority to gather and certify elevation data.

Section D, of the EC is titled "Surveyor, Engineer, or Architect Certification", and it must be "signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information". However, just because the instructions indicate that the form needs to be signed by one of the three; it does not mean that all of them can legally sign the EC. The EC is a generic federal form designed to be used across the United States, and Section D contains "catch all language" in order to encompass the professions that would normally be in a position to interpret elevation data.

In the State of Montana land surveyors are authorized by law to certify elevation data, architects are not, and it may be debatable if an engineer can. The rules that govern the activities of Professional Engineers (PE), Professional Land Surveyors (PLS), and define the surveying practice are the Administrative Rules of Montana (ARM) and the Montana Code Annotated (MCA). Specifically ARM 24.183.1110 (Activities Included Within Surveying Practice), ARM 24.183.1111 (Activities Excluded From Surveying Practices), and the definitions in MCA 37-67-101 (4), (6), and (7).

The question of whether an engineer can sign the EC has been asked of the DNRC numerous times and widely debated by the surveying and engineering community. Therefore in an attempt to provide the best possible answer representatives of the DNRC met with the Board of Professional Engineers and Land Surveyors which governs the licensing of engineers and surveyors. The Board was split on the topic and arguments were made for both sides of the issue. Some Board members felt that there may be instances where an engineer's signature may be appropriate if it was associated with a project that the engineer had

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designed. Other members of the Board did not share the opinion. In the end, since there was such a wide variety of circumstances and opinions, the Board did not provide a definitive answer. Instead they indicated that they would allow the interpretation of the law to come from the decisions made during administrative hearings that resulted from complaints filed with the Board regarding this situation.

Therefore, the bottom line is that every engineer should become familiar with the rules that govern their profession and make sure that they are comfortable with the circumstances and their decision to sign the EC.

Note: Flood Insurance Studies are available through online download at a cost of $5.00 per study. A study usually includes a county. In some cases, there may have been more than one study for a county. Get information on this and other FEMA products.

To local community officials, remember that these products are available at no cost to local governments.

Sharing the Floodplain Message at MACo and DES Conference

Ed Tinsley, Division Administrator for Montana Disaster and Emergency Services speaks before a crowd of over 200 participants at the Montana DES and Montana Association of Counties Conference in Billings. Later Montana DNRC floodplain program representatives, Tiffany Lyden (middle) and Traci Sears (right) gave presentations on the floodplain program and on floodplain mapping.

Montana County Commissioners and Disaster and Emergency Services personnel from around the state gathered in Billings to share information at the Governor's Conference on Emergency Management. The Montana DNRC was well represented at the conference with presenters Traci Sears, Tiffany Lyden and Adam Powers.

Traci Sears provided highlights and updates on the Biggerts-Waters Act. She outlined how Montanans in Special Flood Hazard Areas (SFHAs) are benefitting from Montana's higher than national standards. Montana's requirements to build two (2) feet higher than the national standard means lower insurance premiums and better flood protection in Montana.

An overview and update on the floodplain mapping program was given by Tiffany. The last of the Montana DNRC presenters was Adam Powers. Adam began working as the Emergency Action Program and Outreach Specialist for the Dam Safety Program last fall. Adam brings a great deal of experience in emergency preparedness and is excited to be a part of the DNRC. He provided key aspects of the Dam Safety Program.

Local, State and Federal Role in Floodplain Management

By Michael K. Gease, CFM,
Floodplain Management Specialist,
FEMA Region VIII

Among all the confusion about the National Flood Insurance Program (NFIP) Biggert-Waters 12 legislation, on October 1, 2013 the NFIP published the latest revisions to the Flood Insurance Manual. One change in the Manual may impact non-residential building construction or improvements in FEMA-identified Special Flood Hazard Areas. Many of you may be familiar with the NFIP regulations for dry floodproofing a building, provided a licensed Engineer or Architect certifies that the design, construction methods and materials make the building watertight at flood depth exposure. Because such buildings may be constructed with a lowest floor below the base flood elevation (BFE), NFIP insurance rates do not provide a rating credit unless the building is certified to at least one foot above the BFE. FEMA has a Floodproofing Certificate form to be sealed by the design professional. The guidance for floodproofing certification is found in FEMA Technical Bulletin No. 3, Non-Residential Floodproofing Requirements and Certification.

However, a little noticed change in the Flood Insurance Manual effective October 1, 2013 now requires additional documentation not only for new business, but policy renewals as well (beginning effective December 1, 2013). Without the documentation, suddenly a non-residential building permitted in compliance by a community floodplain administrator with a valid Floodproofing Certificate now would be rated as if it was non-elevated, resulting in potential huge increases in flood insurance premiums. Prior to this change, the Floodproofing Certificate was the standard documentation. NFIP discovered that the floodproofing certification for rating needed to be reconciled with the documentation listed in the guidance under NFIP Technical Bulletin No. 3. The basic floodproofing certification requirements are:

- Written verification that the building envelope is watertight
- Written certification that the Engineer of Record's design and construction are in accordance with American Society of Civil Engineers ASCE 24-05 requirements to meet FEMA criteria
- A comprehensive Maintenance Plan for the entire structure including the materials used for floodproofing, shields, gates, etc.
- An Emergency Action Plan for the installation of flood shields and other measures
- Written certification that all components and systems when installed meet the requirements of ASCE 24-05
- Documentation or certification from the Authority Having Jurisdiction (permitting official) that they have reviewed and inspected the structure with all floodproofing measures in place and provide evidence of approved final inspection and certificate of occupancy.

The above items are required in addition to the Floodproofing Certificate for all new business and renewals. The impact of this on the community Floodplain Manager is a greater need to ensure the documentation is collected as part of the permit process. Engineer of Record certifications may have to be revisited, in some cases years after the building construction. And at policy renewals, policy holders should be notified by NFIP 90 days prior, and must have the documentation submitted no closer than 45 days from renewal to avoid actuarial rating by elevation. For the complete text of the changes, see the NFIP Specific Rating Guidelines, pp. 5-2 and 5-3. To access the Specific Rating Guidelines.

Montana Floodplain Mapping Program: Overview and Background

By Laurence Siroky, DNRC
Water Operations Bureau Chief

Montana Legislative Policy and Statute

The Montana Legislature passed the Montana Floodplain and Floodway Management Act in 1971. The Act gives local governments the necessary authority to regulate development through adoption of local ordinances designed to minimize flood damage within ***specific areas identified by the state as prone to flood damage***. In other words, after the DNRC identifies flood prone areas, local jurisdictions i.e. counties and municipalities, then adopt local flood hazard mitigation regulations for those areas. The Act prescribes the role of the state and local communities and is a joint effort to combat flood loss. It also was specifically implemented to meet the new requirements for national flood insurance that first became available in 1968 to individuals and businesses as well as to minimize recurrent flood damage and impacts to health, safety and welfare in flood hazard areas.

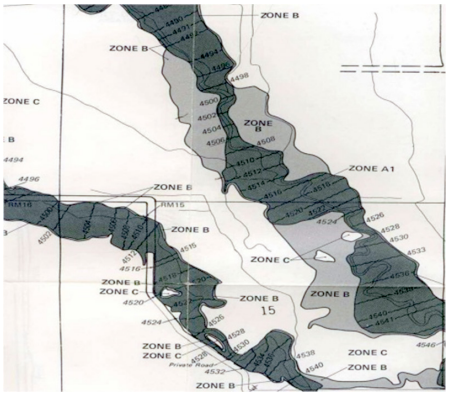
FEMA's National Flood Insurance Program

A total of 134 communities, including 2 Tribes, 44 Montana counties and 88 municipalities participate in the National Flood Insurance Program (NFIP). Flood insurance through the NFIP is available in these communities for individuals and business provided the community regulates development in the specific flood hazard areas.

The Montana Floodplain and Floodway Management Act give political subdivisions the authority to adopt floodplain regulations that meet or exceed state and federal standards. Local floodplain regulations are adopted to minimize flood damage and impacts to health, safety and welfare. Local floodplain regulations require permits for certain development activities (e.g. construction, placement of fill, etc.) within all regulated flood hazard areas. Permits are issued by the floodplain administrator for the respective county, municipality or tribe.

Floodplain Mapping Before 2003

The DNRC is specified as the agency responsible for examining flood prone areas and delineating floodplains and floodways for the state's watercourses. Often the mapping and technical studies are done in coordination with FEMA mapping efforts.

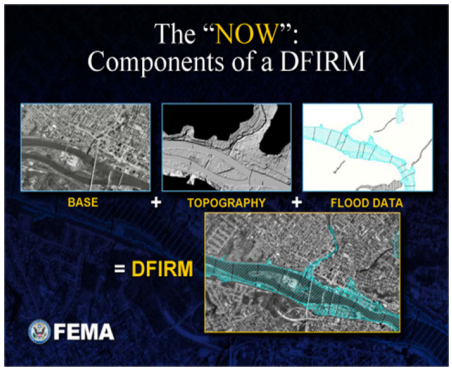


There has been an average of two specific study reaches of floodplain hazard area mapping completed per year since 1970 for NFIP participating communities that manage and regulate development. The US Army Corps of Engineers, U.S. Geological Survey and the Soil Conservation Service (now named the Natural Resources Conservation Service) completed approximately 60 floodplain studies in Montana before the year 2000. Since then mapping funds have been cut or redirected from the above listed federal agencies. Currently there are approximately 10,000 miles of stream where floodplain hazard mapping has been completed in Montana.

Year Funded	Counties with Floodplain Mapping Projects	Mapping Costs	
		FEDERAL Share	STATE Share
2000	Gallatin		$100,000
	Sanders		$100,000
2003 - Start of Programs for Digital Flood Insurance Rate Maps			
2003	Blaine	?	
	Custer	$63,000	
	Gallatin	$505,000	
	Lewis & Clark	$422,000	
	McCone	?	
	Park	$317,000/ COE	
2004	Jefferson	$272,000	
	Lincoln	$20,000	
	Madison	$54,000	Local
	Sheridan	$36,000	
	Roosevelt	$54,000	
	Valley	$71,000	
2005	Flathead	$407,000	LIDAR
	Missoula	$483,000	LIDAR
2006	Carbon	$377,000	
	Yellowstone	$361,000	$2,682
2007	Cascade	$391,000	
	Fergus	$271,000	
2008	Ravalli	$180,000	LIDAR
	Silver Bow	$200,000	
2009	Lake	$750,000	LIDAR
	Sanders	$490,000	
2010	Stillwater	$268,406/ COE	$13,500
	Sweet Grass	$269,862/ COE	$1,000
2011	Flathead	$474,425	
	Granite	$496,938	
2012	Gallatin	$227,975	
	Missoula	$87,378	
2013	Gallatin	$0	$20,000
2013	Roundup+	LIDAR	$100,000
2014	To be determined	$0	$100,000

Floodplain Mapping After 2003/ FEMA Digital Flood Insurance Rate Maps

Since 2003 FEMA has undertaken a program to update existing flood hazard maps to include digital data and information. Digital Flood Insurance Rate Maps(DFIRM) have been completed for the paper maps of Special Flood Hazard Areas for the counties of Broadwater, Carbon, Cascade, Custer, Fergus, Flathead, Gallatin, Jefferson, Lewis & Clark, Lake, Lincoln, Madison, McCone, Park, Ravalli, Richland, Roosevelt, Sheridan, Silver Bow, Valley and Yellowstone. Ongoing projects include Flathead, Missoula, Stillwater, Sweet Grass, Granite and Bozeman Creek. FEMA has provided $7.6 million for local and national engineering and mapping contractors to complete the project and $1.0 million to the DNRC for administering the contracting and coordinating the projects with local officials, landowners and businesses since 2003.



FEMA mapping program is funded by the combination of funds from premiums from the National Flood Insurance Program and federal general funds. Nationwide, funding has been trimmed to approximately $200 million per year from $350 million per year during 2002 to 2010 and $84 million for 2014. The primary federal focus for remapping for years 2011 to 2014 is for coastal high population areas and communities that can contribute 25% to the mapping effort. Montana projects have been funded annually for the amounts listed below. FEMA funding was decreased to zero, for mapping funds for Montana in 2013.

The Future of Montana's Floodplain Mapping Program

Prior to 1985, one state funded position was allocated to the floodplain mapping program primarily to coordinate the ongoing federal floodplain mapping activities. The state funded position was not refilled since 1985 to meet vacancy savings goals. The duties were reinstituted in 2005 by moving a state funded dam safety position to floodplain mapping duties in order to assure Montana's technical aspects were incorporated into the FEMA mapping program.

State funding specifically for DNRC floodplain mapping activities was funded only intermittently. State funding of $100,000 was provided for each two years prior to 2001 and $100,000 for state fiscal year 2013 and 2014. Occasionally, communities such as Flathead, Lake, Missoula and Ravalli Counties procured grants from CARRD for aerial and topographic data that was for a combination of purposes including updating and revising existing floodplain maps in coordination with ongoing FEMA projects. A project for the Big Hole River was completed utilizing local, federal and state funds.

The cost of floodplain mapping is generally scaled to meet the needs of the community. Costs for floodplain mapping and supporting engineering as well as coordination with the local community for review and adoption range from $20,000 per mile for urban areas with detailed mapping to $1,000 per mile for rural areas with more approximate mapping.

About half of the NFIP participating counties and half of the participating

continued...

cities have had some sort of update to their mapped special flood hazard area since 2003, mostly due to the FEMA DFIRM program efforts in Montana. The remaining counties and cities are administering their floodplain management efforts on maps and data developed in the 1970's and 1980's. Continued Federal and state funding sources for updating those maps are uncertain and mapping updates may become a greater financial responsibility of local communities. If there is limited federal and state funding, communities that provide a financial cost share will receive a higher mapping priority.

National Flood Insurance

Flood insurance is available to renters, homeowners, and businesses for locations anywhere within the jurisdictional areas of the 134 NFIP participating communities. This includes areas outside of the specifically identified flood hazard areas. Any mortgage or loan underwritten or secured by the federal government is required to have flood insurance. The total insured value of the current structure coverage in Montana is $1.045 billion represented by 5863 policies with an annual premium total of $3.7 million. The total paid out for insurance claims for flood damage since 1978 is $9.8 million. The counties with the highest flood insurance claims were Valley, Park, Yellowstone and Flathead Counties for a combined total of $3.1 million and for cities a combined total of $1.2 million for Miles City and Roundup for the period of 1978 to 2012.

The National Flood Insurance estimating tool illustrates that a six (6) inch flood in a 2000 square foot house on a slab is estimated to cause $39,000 in content and structural damage. The estimated damage for a two (2) foot depth is $63,000.

The 2012 Montana Multi-Hazard Mitigation Plan and Statewide Hazard Assessment reports property flood losses of $84 million since 1960 adjusted to 2012 dollars. The top three counties with property flood losses are Custer, Musselshell and Flathead and account for 25% of the total. The report lists flood exposure for 51,000 residential buildings in Montana at $7.9 billion from a 1% chance flood.

Editor's Note: The Water Policy Interim Committee met in Helena in January of 2014. This committee is on one of many legislative committees created by state law to manage the administrative functions of the Legislative Branch of state government. Laurence Siroky, DNRC Water Operations Bureau Chief was invited to make a presentation before this committee regarding floodplain mapping and associated costs. As part of his presentation, he prepared the following paper which has been slightly edited for this issue of High Ground.

View Digital Flood Insurance Rate Map Information via ArcGIS through this FEMA link.

Now, nearly two dozen Montana counties have FIRM data in a digital format.

Marv Cross, Engineering Specialist in Havre: Retiring

We are going to miss you, Marv! Your level-headed reasonableness has been a big asset to the floodplain program. Your patience at problem-solving and your gifts of communicating effectively with a friendly spirit have contributed to the respect you've earned in the DNRC and along the Hi-line. You've been a great and positive part of the DNRC for 33 years. Your knowledge, humor and professional contributions will be sorely missed.

We wish you well, in your retirement: achieving your lifelong dream of being a full-time rancher and sheep "counter". We hope you don't forget about us, as we won't forget about you. Rumor has it that you will retire in May, 2014. Although we don't know the exact date, when it comes, may you and your bride live happily ever after.

New Local Floodplain Administrators

Lake County

La Dana Hintz: La Dana started as the Planning Director in Lake County in December of 2013. At that time, she also began handling floodplain management duties for the county. Her background in fisheries and resource management and her 6 ½ years experience with the county will serve her well in managing floodplains.

Not a new local floodplain administrator, but new to floodplain administration in the City of Whitefish, Bailey Minnich.

View a current list of all local floodplain administrators in Montana.

Congratulations Kent Atwood on your promotion in state government to Grants Bureau Chief with Montana DES.

Calendar

March 16-22
Montana Flood Safety Awareness Week. Visit http://www.floodsafety.noaa.gov/ for info on flood safety and conditions that preceded the 1964 flood.

March 24-27
Association of Montana Floodplain Managers Annual Conference in **Billings**. Hope to see you there. http://www.mtfloods.org/

April 8-10
Montana Storm Water Conference in **Billings**.

April 12 (Sat.) 9:00 am – 3:00 pm
Walleye Unlimited event with scads of information including floodplains and flood safety by representatives from the US Army Corps of Engineers and Montana DNRC. **Glasgow** at the Valley Event Center. Free and open to the public.

April 21 6:30 – 7:30 pm
Floods and Earthquake Hazards – Being Prepared. **Helena** at the Montana Wild Center. Presenters: Paul Spengler and Mary Guokas. Free and open to the public.

April 24
Flood Awareness Day for 9th graders in **Kalispell**. Sponsored by the Flathead Conservation District. For more information, contact Kari Musgrove at 406.752.4220 or

April 29
Flood Awareness Day in **Miles City**. Free and open to the public. For schedule or more information, contact Sam Malenovsky at 406.234.3493.

May 9
Lewis and Clark Flood Awareness Day for 6th graders in **East Helena**. For information, contact Chris Evans at 406.449.5000 rcy. 112.

May 17 10:00 am – 2:00 pm
Big Fork Emergency Response Team Annual Fair. **Bigfork** Middle School. Includes floodplain outreach and floodplain simulator. Free and open to the public. Contact MonaRae at 406.837.9979

July 21-25, 2014 ***SAVE the DATE!***
Floodplain Resource Seminar **Helena** at the UM-Helena College of Technology. For information contact Bri Shipman at 406.444.1300.

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Persons with disabilities who need an alternative accessible format of this document should contact DNRC public information officer at 406-444-0465.

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HIGHGROUND
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